

## PATENT COOPERATION TREATY

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**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
**(Chapter II of the Patent Cooperation Treaty)**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference GB030001	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/GB2004/001304	International filing date (day/month/year) 25.03.2004	Priority date (day/month/year) 12.04.2003	
International Patent Classification (IPC) or national classification and IPC G06F17/30, G06F17/60, H04L29/06			
Applicant INTERNATIONAL BUSINESS MACHINES CORPORATION			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a.  (*sent to the applicant and to the International Bureau*) a total of 3 sheets, as follows:

- sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b.  (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

Date of submission of the demand 10.02.2005	Date of completion of this report 01.04.2005
Name and mailing address of the international preliminary examining authority:   European Patent Office - Gitschner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Authorized Officer  Pose Rodríguez, J Telephone No. +49 30 25901-655

## **INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.  
PCT/GB2004/001304

## **Box No. I Basis of the report**

- With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
    - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
      - international search (under Rules 12.3 and 23.1(b))
      - publication of the international application (under Rule 12.4)
      - international preliminary examination (under Rules 55.2 and/or 55.3)
  - With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

**Description, Pages**

1-13 as originally filed

## **Claims, Numbers**

1-9 filed with telefax on 15.02.2005

## **Drawings, Sheets**

15-55 as originally filed

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:

- the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-9
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-9
Industrial applicability (IA)	Yes:	Claims	1-9
	No:	Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The following documents D1, D2 are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

**D1:** VENKATAPATHY C ET AL: "An introduction to Web Services Gateway"  
INTERNET, 1 May 2002 (2002-05-01), XP002288276

**D2:** CHAN A, MOBERG D, SACHS M, MALU P: "Web Services sub-team report"  
CPPA F2F, [Online] 1 June 2002 (2002-06-01), pages 1-12, XP002305832

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**2.1 Document D1, which is considered the closest prior art, discloses the following features of claim 1 (the references in parenthesis referring to D1):**

- 1 - A method for a web services gateway to enable a web service client to access a business service (**page 1, line 6-10; page 2, line 9-11; page 2, line 30-36**), the method comprising the steps of:
  - 2 receiving a profile from the business service, the profile containing a details of how to communicate with the web client service (**page 2, line 38-43; page 3, line 1-3**)
  - 4 creating a document based on the profile, the document being in a format recognisable to the web client and containing details of how to communicate with the business service via the gateway (**page 3, line 3-6**); and
  - 5 providing, to a third party, information relating to the business service and a location from which the document can be obtained by the web service client (**page 4, line 1-4**);
  - 6 thereby enabling the web service client to use the document to access the web service via the web services gateway (**page 4, line 1-10; fig. 1**).

The only difference between claim 1 and the closest prior art document D1 is the following feature:

- 3 **and being in a format not recognisable to the web service client;**

Document D1 discloses a Web Services Gateway, where the profile of the service is only submitted in WSDL format, which is the standard file for defining a profile in web services.

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Claim 1 discloses a Web Services Gateway where the profile is submitted in a format and a transformation is done in order to define the profile in a format recognisable to other web clients. This new format can be, for example, WSDL document, which is a web service description document, which can be registered by the gateway with a third party (UDDI).

Therefore, the proposed gateway includes a profiler which is capable of transforming one profile in other profile which the user service is able to recognise.

Therefore, the subject-matter of claim 1 is novel (Article 33(2) PCT).

An objective problem, which would occur in D1 and which is solved by this feature would be:

- how to publish services in the gateway having a profile in a format different than WSDL.

In document D1, a WSDL profile is generated with the information of the service as the first step of the process for handling inbound requests (**page 2, line 38-42**). The person skilled in the art wanting to publish a service using the gateway would find as an obvious solution to transform the original profile of the service in a WSDL profile, in order to publish the service using the gateway and therefore would look in the prior art ways to transform business service profiles from one definition to the other.

Document D2 discloses way of mapping CPA files (the profile definition in ebXML standards) into WSDL files (**see document D2, page 2, 3, 8-10**).

The person skilled in the art would apply this knowledge to solve the problem, specially in this specific context would apply this to D1 to arrive at the solution of claim 1.

Therefore, the subject-matter of claim 1 lacks of inventive step (Article 33(3) PCT).

**2.2 Independent claims 5, 9 correspond to independent claim 1 and same reasoning**

regarding inventive step can be applied.

Therefore, the subject-matter of claims 5, 9 lacks of inventive step (Article 33(3) PCT).

3. Dependent claims 2-4, 6-8 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to inventive step (Article 33(3) PCT), the reasons being as follows:

- 3.1 Claim 2 and its corresponding claim 6 are not inventive because the only additional feature ("...receiving a request from the web service client for the business service, the request including details of the document; using the details of the document to match the request with the profile received from the business service; converting the request to a request suitable for sending to the business service using details from the profile; and sending the converted request to the business service.") is disclosed in document D1 (**page 4, line 1-6; page 5, line 1-7; fig. 3**).

Therefore, the subject-matter of claims 2, 6 lacks of inventive step (Article 33(3) PCT).

- 3.2 Claim 3 and its corresponding claim 7 are not inventive because the only additional feature ("...wherein the details of how to communicate with the business service via the gateway include a location in the gateway for the web service client to use when requesting access to the business service, - the location being associated with the profile and the method further comprises the steps of: receiving a request, at the location, from the web service client for the web service; obtaining details from the profile associated with the location and using the details to convert the request into a request suitable for sending to the business service; and sending the converted request to the business service.")

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is disclosed in document D1 (**Listing 1-2; page 4, line 1-6; page 5, line 1-7;  
fig. 3**).

Therefore, the subject-matter of claims 3, 7 lacks of inventive step (Article 33(3) PCT).

- 3.3** Claim 4 and its corresponding claim 8 are not inventive because the only additional feature ("...waiting for a response to the converted request from the business service; using the response to the converted request to trigger a response to the web service client request.") is disclosed in document D1 (**page 2, line 30-36; page 4, line 8 to page 5, line 12; fig. 2-4**).

Therefore; the subject-matter of claims 4, 8 lacks of inventive step (Article 33(3) PCT).

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## CLAIMS

1. A method for a web services gateway to enable a web service client to access a business service, the method comprising the steps of:

receiving a profile from the business service, the profile containing a details of how to communicate with the web client service and being in a format not recognisable to the web client;

creating a document based on the profile, the document being in a format recognisable to the web client and containing details of how to communicate with the business service via the gateway; and

providing, to a third party, information relating to the business service and a location from which the document can be obtained by the web service client;

thereby enabling the web service client to use the document to access the web service via the web services gateway.

2. A method according to claim 1 comprising the further steps of:

receiving a request from the web service client for the business service, the request including details of the document;

using the details of the document to match the request with the profile received from the business service;

converting the request to a request suitable for sending to the business service using details from the profile; and

sending the converted request to the business service.

3. A method according to claim 1 wherein the details of how to communicate with the business service via the gateway include a location in the gateway for the web service client to use when requesting access to the business service, the location being associated with the profile and the method further comprises the steps of:

receiving a request, at the location, from the web service client for the web service;

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obtaining details from the profile associated with the location and using the details to convert the request into a request suitable for sending to the business service; and

sending the converted request to the business service.

4. A method according to claim 2 or claim 3 comprising the further steps:

waiting for a response to the converted request from the business service;

using the response to the converted request to trigger a response to the web service client request.

5. A web services gateway which enables a web service client to access to a business service, the gateway comprising:

means for receiving a profile from the business service, the profile containing a details of how to communicate with the business service and being in a format not recognisable to the web service client;

means for creating a document based on the profile, the document being in a format recognisable to the web service client and containing details of how to communicate with the business service via the gateway; and

means for providing, to a third party, information relating to the business service and a location from which the document can be obtained by the web service client;

thereby enabling the web service client to use the document to access the business service via the web services gateway.

6. A gateway according to claim 5 further comprising:

means for receiving a request from the web service client for the business service, the request including details of the document;

means for using the details of the document to match the request with the profile received from the business service;



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means for using details from the profile to convert the request to a request suitable for sending to the business service; and

means for sending the converted request to the business service.

7. A gateway according to claim 5 wherein the details of how to communicate with the business service via the gateway include a location in the gateway for the business client to use when requesting to access the business service, the location being associated with the profile and the gateway further comprising:

means for receiving, at the location, a request from the web service client for the business service;

means for obtaining details from the profile associated with the location and using the details to convert the request into a request suitable for sending to the business service; and

sending the converted request to the web service.

8. A gateway according to claim 6 or claim 7 further comprising:

means for waiting for a response to the converted request from the business service;

means for using the response to the converted request to trigger a response to the business client request.

9. A computer program product comprising instructions which, when executed on a data processing host, cause the data processing host to carry out the method as claimed in any one of claims 1 to 4.